

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:

Commercial Operations in the 3550-3650
MHz Band

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) GN Docket No. 12-354
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COMMENTS OF CAMBIUM NETWORKS

Cambium Networks, Ltd. (“Cambium Networks”) hereby responds to the Federal Communications Commission’s (“Commission”) Notice of Proposed Rule Making seeking comment on the creation of a new Citizens Broadband Service in the 3550-3650MHz band (3.5GHz Band) (FCC 12-148).

I. INTRODUCTION

Cambium Networks welcomes the Commission’s proposed rule change which would open additional spectrum for commercial activities while protecting the Department of Defense (DoD) and Fixed Satellite Service (FSS) incumbent users of this band. The previous opening of 50MHz of spectrum in 3650-3700MHz is delivering wireless broadband access to tens of thousands of rural residential users, small business owners, utility/smart grid infrastructure, and municipalities. The spectrum has proven especially effective for fixed wireless broadband access. Products already on the market servicing these applications could quickly be tailored to the new spectrum if there are no major changes to the rules currently in effect in 3650-3700MHz.

II. PRIORITY ACCESS

Cambium Networks supports the creation of a tiered access to this 3550-3650MHz spectrum with the incumbent users retaining their highest priority rights. Cambium proposes that the second tier consist of commercial broadband service providers, Industrial applications (e.g. petrochemical), Utility (e.g. SCADA), and wireless Internet service providers (WISPs). The third tier with lowest priority would be available for consumer products.

WISPs offer a valuable service in enabling Internet access to rural residential users in communities across the country. They are also an important economic driver enabling small businesses to access the Internet in rural areas not covered by the tier 1 carriers. Allowing WISPs to operate in the priority access level ensures the spectrum can be reliably used by these WISPs to support their communities.

The continuing deployment of mobile data networks is driving demand for wireless backhaul networks to feed the bandwidth requirements of access networks (e.g. LTE). The 3550-3650MHz spectrum would provide additional available spectrum to support near and non line of site wireless backhaul links with improved propagation characteristics vs. 5GHz spectrum.

Industrial and Utility networks are furthering their use of supervisory control and data acquisition (SCADA) networks as well as the video monitoring of critical infrastructure. Many locations require wireless access due to the lack of cost effective wireline alternatives. The 3550-3650MHz spectrum could be used for these applications.

III. SIMILARITIES TO CURRENT 3650-3700MHz SPECTRUM

Cambium proposes that the rules for the proposed Citizens Broadband Radio Service at 3550-3650MHz be made similar and even combined with those of the existing Part 90 rules for 3650-3700MHz. Products from multiple equipment manufacturers already exist in the 3650-3700MHz band and network operators in these bands today could dramatically expand their operations and reach by having access to another 100MHz of contiguous bandwidth using the same types of proven equipment and deployment practices. The same uses of exclusion zones and a spectrum access system (SAS) could be used to protect incumbent users.

Cambium Networks supports rules that would allow specific rural areas to be deployed with higher EIRP limits where there is less likelihood of network-to-network interference and where rural residences and businesses are harder to reach. This option is currently available to 3.65GHz service providers in Canada using population density zones as indicators of where higher EIRP limits can be applied. The availability of 150MHz of total bandwidth also makes cooperation amongst adjacent service providers more feasible.

IV. SPECTRUM ACCESS SYSTEM (SAS)

Cambium Networks agrees with the approach of using an SAS to reduce the size of exclusion zones and to ensure protection of priority access. Cambium Networks notes the potential complexity of maintaining this system and the incremental functionality necessary to interoperate the radio systems with the SAS. The goals of an SAS should be to protect the incumbent users of this band, reduce exclusion zones, minimize the operational impact to users (both pre-deployment and post-deployment), and simplify the

administration and maintenance of networks. As the complexity and rules associated with accessing the spectrum increases there is risk that the adoption of the band will be slowed.

V. CONCLUSION

As discussed above, the Commission's *Notice* is strongly supported by Cambium Networks. The Commission should include wireless broadband service providers in the priority access tier alongside utility, industrial, public safety and infrastructure users as the availability of broadband Internet access to rural citizens is a key component to economic growth. This additional 100MHz of spectrum at 3.5GHz would generate significant economic activity, enable last-mile access to tens of thousands of rural residential and small business users, and provide the necessary protections to incumbent users. Using similar rules to the existing 3650-3700MHz band will speed adoption of this new spectrum. The use of a SAS to control access to the spectrum is supported noting that minimizing the rules and complexity of this access will speed adoption of the new band.

Respectfully submitted,

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